

The First Record of *Tenuiala nuda* EWING from Japan and Its Redescription

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丸山一郎¹⁾・青木淳一²⁾：日本新記録のマルトゲダニの再記載
(ダニ目：ササラダニ亜目)

Abstract A North American species of oribatid mites, *Tenuiala nuda* EWING, was found from the forest soil in Niigata Prefecture, Central Japan. This is the first record of the genus *Tenuiala* and *T. nuda* from Japan. The species was described in detail on the material from Japan.

In the family Tenuialidae of oribatid mites five species have been known from Japan, belonging to the genera *Ceratotenuiala*, *Hafenrefferia*, *Peltenuiala* and *Tenuialoides*. In addition to them, a species of the genus *Tenuiala* was found from mountains more than 1,000 m above sea level in Niigata Prefecture, Central Japan. The redescription of the species is given below based on the material collected from Japan.

Before going further, we wish to express our hearty thanks to Dr. Roy A. NORTON of State University of New York for his kindness to give us useful advice and a North American specimen of *Tenuiala nuda* for our comparative study.

Tenuiala nuda EWING (Figs. 1-11)

Tenuiala nuda EWING 1913, p. 134, Fig. 5; WOOLLEY & HIGGINS, 1955, p. 46, Figs. 1-2; WOOLLEY & HIGGINS, 1965, p. 235, Fig. 9, p. 236, key.

Measurement. Body length: 970(1014)1080 μm ; width: 678(714)776 μm measured on 8 specimens.

Prodorsum. Rostrum provided with a pair of thin blade-like appendages concaved at tips (Fig. 4). Rostral seta minutely barbed, shorter than lamellar one. Lamellae long and broad, striated along outer margin. Lamellar seta strongly curved, minutely barbed, inserted ventrally near the notch. Interlamellar seta as long as lamellar one, not reaching tip of lamella. Sensillus short, smooth, weakly swollen in the middle, often slightly swollen again near the tip (Fig. 5). Tutorium pointed at tip with its anterior border strongly excavated.

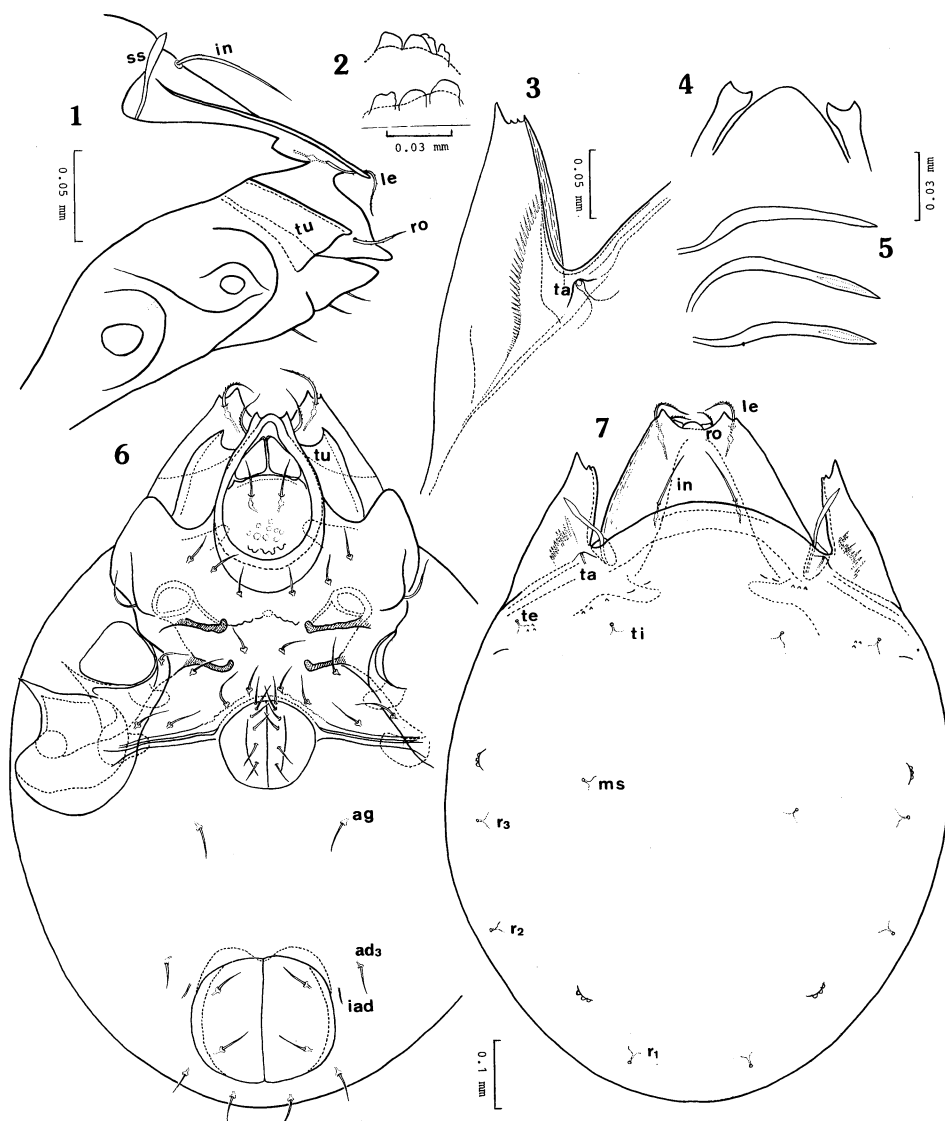
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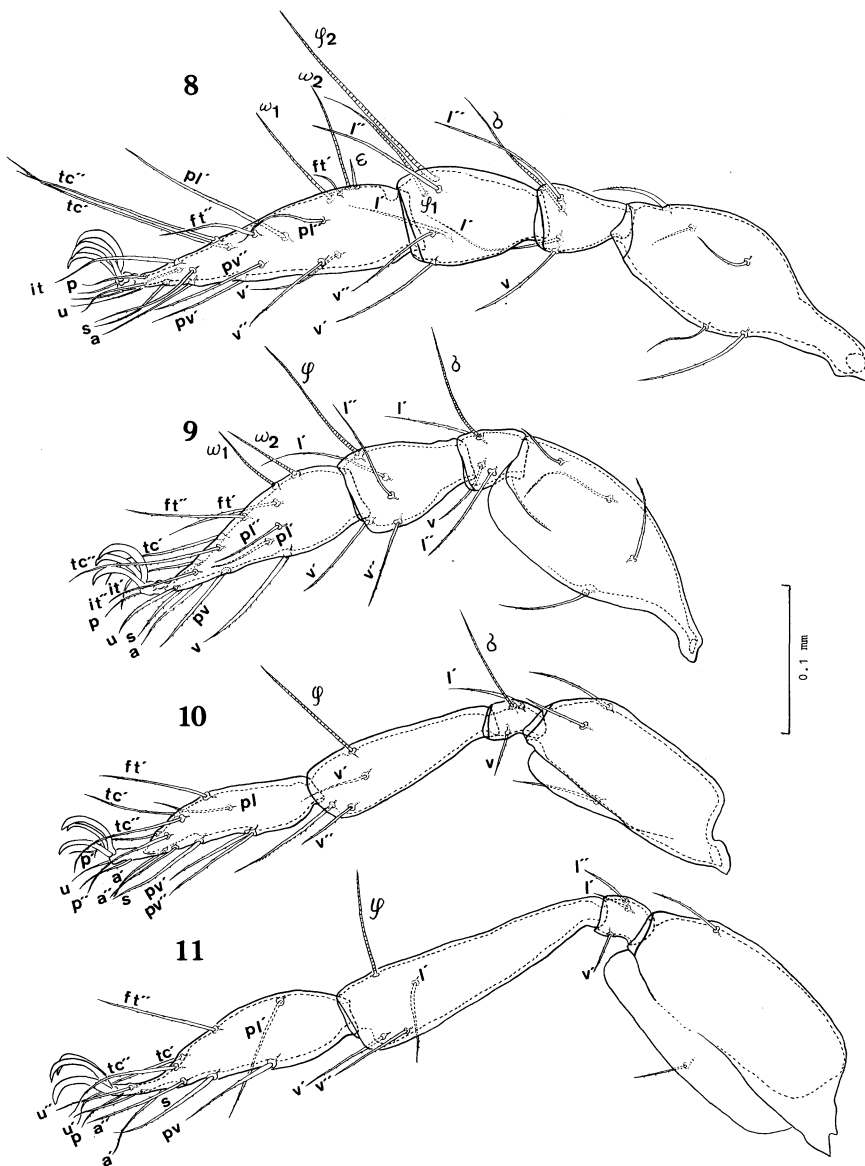
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Figs. 1-7. *Tenuiala nuda* EWING.—1. Lateral view of propodosoma. 2. Porous structure between r_1 and r_2 . 3. Shape of scapular process. 4. Shape of rostrum. 5. Variation in the shape of sensilli. 6. Ventral side. 7. Dorsal side.

Notogaster. Scapular process long, with a long outer tooth and 2-3 minute setae visible on notogaster in dorsal view. Two pairs of porous structures of irregular shapes (Fig. 2) found between setae r_1 and r_2 and anterior to seta r_3 (Fig. 7).

Ventral side. Epimeral borders *bo. 2* and *bo. sj* slender, but distinctly developed and dark-colored. No longitudinal sternal ridge. Transverse double ridges connecting genital aperture and insertion of leg IV on each side. Setal formula of epimerata 4-1-



Figs. 8-11. *Tenuiala nuda* EWING.—8. Leg I. 9. Leg II. 10. Leg III. 11. Leg IV.

3-3. Pedotectum I large and broadly rounded at tip. Genital aperture in the shape of a rounded pentagon, slightly wider than long. Each genital plate with a longitudinal ridge and 6 setae; the anteriormost one being the longest. Two anal setae situated rather laterally. Adanal setae ad_3 inserted nearly in level of anterior margin of anal aperture. Adanal fissure aligned almost parallel to lateral margin of anal aperture (Fig. 6).

Legs. Leg I: Solenidia ω_1 and ω_2 on tarsus subequal in length. Solenidia 2 longer than ϕ_1 ; solenidion σ slightly curved; tibia rather stout.—Leg II: Leg II shorter than leg I; Solenidia ω_1 and ω_2 subequal in length and thickness; solenidion ϕ more than 1.5 \times as long as ω ; solenidion σ slightly curved; femur with a narrow ventral blade on its distal half.—Leg III: Solenidion ϕ as long as σ ; femur with a short blade in the ventrodistal part; tarsus subequal in length to tibia.—Leg IV: Setae s and pv on tarsus stronger than the remaining setae; femur with a narrow ventral blade throughout its length; tibia slender. Trochanter with a prominent dorsal spine (Fig. 6).—Leg chaetotaxy (Fe-Ge-Ti-Ta) excluding solenidia and famulus; Leg I (5-3-4-19); Leg II (4-3-4-14); Leg III (3-2-3-13); Leg IV (2-3-3-12).

Collecting data. 5 exs.: Mt. Hakkai, 1,225 m, Yamato-machi in Minami-uonuma-gun, Niigata Prefecture, from litter and soil under a beech forest, 10-X-1987.—2 exs.: Mt. Makihata, 19-VI-1988.—2 exs.: Mt. Echigo-komagatake, 19-VII-1987. All the specimens were collected by I. MARUYAMA.

Remarks. In comparison of our material with the redescription and figures by WOOLLEY & HIGGINS (1955) we found the following differences between the Japanese specimens and the North American ones: 1) No translamella exists in the Japanese specimens, but it exists in the American ones; 2) lamellar seta is inserted ventrally on lamella in the Japanese specimens, but dorsally in the American ones; 3) sensillus almost smooth in the Japanese specimens, but roughened in the American ones; 4) lamella shows a slight notch in the anterolateral margin in the Japanese specimens, but it does not in the American ones.

By our request, however, Dr. NORTON was so kind as to examine his specimens of *Tenuiala nuda* collected from the topotypic location and sent us his comments that the above mentioned differences 1)-3) were caused by mistakes in the redescription and on the last difference 4) he found a slight notch only in one of his six specimens examined. These facts were ascertained by us on the examination of specimens sent by him to us. As the results of his kind comments and the examination by ourselves we could make decision that the Japanese specimens were identified with *Tenuiala nuda* EWING.

摘 要

日本産マルトゲダニ科には4属5種が知られているが、今回新潟県中越地方の八海山、越後駒ヶ岳、巻機山のブナ林から日本未記録のマルトゲダニ属（新称）*Tenuiala*の種が採集され、研究の結果、北アメリカ産の*Tenuiala nuda* EWING, 1913と同種であることが確認され、和名をハッカイマルトゲダニ（新称）と命名し、日本産の標本に基づいて再記載を行った。

References

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